voenzyme structure and electron-transfer mechanisms (180); flavin biosynthesis, metabolism and medical aspects (100); flavoenzyme hydroxylases (50); flavin-dependent bioluminescence (70); structure, mechanism and biosynthesis of flavoenzymes containing covalently-bound flavins (100). The editors note that this grouping reflects their view of the field, and it is clear that many of the papers could be included in more than one section. Several of the longer papers provide useful reviews. The subject index is adequate, but not extensive, most of the main headings being either methods or the trivial names of enzymes.

The wide range of topics covered in the book reflects the biochemical versatility of flavins and flavoproteins and the variety of techniques that are available for their study. The latter include all of the modern techniques used to study other groups of enzymes, plus a further list, many of them spectroscopic, that are limited to enzymes that contain a redox-active prosthetic group and which in most cases can be reversibly split from the protein.

Discussion sessions form an essential and lively part of flavins and flavoprotein symposia. It is a pity that the practise of including a record of them in the proceedings of the symposia, a feature of the proceedings of early symposia, is no longer followed. As a co-editor of the proceedings of the previous symposium, I am conscious of the pressure on editors to ensure rapid publication. However, the techniques that are now available for audio recording and for communication should make it possible to assemble and edit discussion without causing too much delay in the publication date. The inclusion of at least the more interesting discussion, perhaps at the expense of some of the shorter papers, would have greatly enhanced the scientific value of Flavins and Flavoproteins 1987. Nevertheless, the book is for the flavinologist to devour, and it can be recommended also to the general reader who wishes to find out who is doing what in most areas of the field.

Stephen G. Mayhew

Protein Purification – Micro to Macro

UCLA Symposium on Molecular and Cellular Biology New Series, Vol. 68

Edited by R. Burgess

Alan R. Liss; New York, 1987

500 pages. $88.00

This book contains 40 papers presented at a conference of that name in March–April 1987. The commendable speed of publication is presumably associated with camera-ready printing of the contributions which are organised under eight subheadings. The editor has provided a preface and the volume has an index.

About one-half of the papers are small reviews and it seemed to me that these were often the more useful contributions. Notable are articles on minor techniques such as controlled-pore-glass chromatography, phase partitioning and metal-ion affinity chromatography. Most of the remaining papers report experimental studies of the purification of particular proteins. Such contributions are usually summaries of work to be published in full elsewhere. Dominant topics are purification on a very large or a very small scale and the isolation of cloned proteins, rather than very difficult purifications from the native source. A small proportion of papers are only marginally related to the title of the book.

The classification under eight sub-headings is often arbitrary and it may be that some papers

were not written with the intention of fitting into a particular section. In the current state of rapid-printing technology, it is not easy to edit books such as these. Just as Dr Scopes describes for protein chromatography, so it may be in book publishing: there is an optimum speed of operation. I would prefer that the editor and publishers had used slower techniques which would allow the benefit of stringent editing and uniform lay-out.

C.J. Bailey

Immune Recognition

By M.J. Owen and R.J. Lamb

IRL Press; Oxford, 1988

x + 73 pages. £5.95

and

Complement

By S.K.A. Law and K.B.M. Reid

IRL Press; Oxford, 1988

x + 72 pages. £5.95

These short books are two of a new series which the publishers inform us are specifically written for students to enable them to keep abreast of fast moving areas of medicine and biology. As they are intended 'to complement experimental work in particular', the targetted students must be postgraduate or undergraduates working on related experimental projects. Both books are published in association with the British Society for Immunology.

Recognition of antigens by T cells and antibodies lies at the very heart of the immune system; progress in understanding the genetic and molecular basis for the interactions involved has been very rapid and the book by Owen and Lamb provides a well-organized and timely review. It contains four chapters of more or less equal length. Each chapter is divided into several short sections. Chapter one 'General principles of recognition' introduces the essential differences between recognition of antigen by T cells and B cells, immunoglobulin structure, T cell receptor structure, MHC as guidance molecules, accessory molecules for T cells, and activation pathways-membrane signalling events involved in the activation, proliferation and differentiation of B and T cells. All this is encompassed within a few pages. The second chapter, 'Immunoglobulin genetics and the generation of antibody diversity' includes a section in which structures of contact regions between antigenic determinants and hypervariable regions are examined for various protein antigens. Chapter 3 is devoted to the T cell antigen receptor (TCR) with sections on the organisation of TCRα, TCRβ, TCRγ, TCRδ genes, the possible role of TCRγ, thymocyte ontogeny and proposed mechanisms for MHC-restriction and tolerance through selection in the thymus. The final chapter is about T cell recognition of antigen and MHC products and includes discussion of various models accounting for T cell proliferation in response to histo-incompatible donor lymphocytes.

The subject matter draws on molecular biology, protein chemistry, genetics, immunology and biochemistry and the density of information is very high. Fortunately, the writing is clear and